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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/640,624	08/13/2003	Henry Michaels Beisner		1132

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EXAMINER

ANDREA, BRIAN K

ART UNIT	PAPER NUMBER
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3662

DATE MAILED: 03/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/640,624

Applicant(s)

BEISNER, HENRY MICHAELS

Examiner

Brian K Andrea

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 (claims 8-13 have been renumbered) is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/13/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).
2. Misnumbered claims 8-13 have been renumbered 1-6.

Specification

3. The attempt to incorporate subject matter into this application by reference to the references cited on pages 36 and 37 is improper because essential subject matter can not be incorporated by reference and it is not clear exactly what part of each reference is being incorporated by reference. Additionally, non-patent literature may not be incorporated by reference because it is not readily available.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-6 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for language such as "a whitening filter with complex coefficients . . . and an array of complex delay-Doppler shift coefficients, . . . producing

a residual . . .”, it does not reasonably provide enablement for language such as “a communication system comprising a radio transmitter transmitting a signal which is interfered with by fixed reflectors and moving reflectors, said system comprising an antenna, a receiver and a multipath reduction subsystem comprising an analog to digital converter, a real to complex converter . . .”. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

6. For example, the following items are not understood:

Page 11 discusses several different types of signal and refers to several of them with the same reference numeral (17). It is discussed on page 11 that signal 17 is fed into delayers 11 and frequency shifters 16 however, it is unclear from the figure how this is possible.

Page 21 discusses signal 10 being fed into filters 11 however it is unclear how this may happen from the figure.

Equations 15, 16, 17, 20, 21 and 22 are provided to show how the filter weights are determined however it is unclear from this mathematical explanation exactly how these filter weights are used or why they are determined.

Equations 17 and 23-32 have been provided to show how the removal of the multi-path in the received signal works however a written description of the process of multi-path removal is required. It is unclear exactly how the invention removes the multi-path from the signal because the function of each device singly and the interaction of the different devices with each other is not explained.

The mathematical explanations provided do not help in the understanding of the invention and minimal direction on the implementation of this math is provided.

Applicant's conclusion that this math enables the claims is not warranted.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims are generally read in light of the specification and in this case, the specification is needed to interpret the claims. The claims are unclear and no examination is possible because the specification is incomprehensible.

9. For example, in claim 8, language such as "a whitening filter with complex coefficients . . . and an array of complex delay-Doppler shift coefficients, . . . producing a residual . . ." require an understanding of the specification to be understandable.

While language such as "a communication system comprising a radio transmitter transmitting a signal which is interfered with by fixed reflectors and moving reflectors, said system comprising an antenna, a receiver and a multipath reduction subsystem comprising an analog to digital converter, a real to complex converter . . ." is understood, any language which must be read in light of the specification is incomprehensible because the specification is incomprehensible.

Conclusion

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian K Andrea whose telephone number is (703) 605-4245. The examiner can normally be reached on M-F 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on (703) 306-4171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BKA

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3/25/04


BERNARR E. GREGORY
PRIMARY EXAMINER
A, U, 3662